

Claims

What is claimed is:

1. A duplex automatic document feeder comprising:
 - a document stacking tray for stacking a set of documents;
 - a document separating/feeding unit for separating the set of documents and feeding the documents one by one from the uppermost document thereof;
 - an image reading unit for reading the image data on the first side of the document passing the image reading position;
 - a document inverting unit for inverting the document feeding direction to read the image data on the second side of the document which passes the image reading position after the reading of the first side has been completed;
 - a document discharging unit for piling up the documents on the document-discharging tray after the front and the reverse side of the document of which both sides have been read is reversed, with the document not passing on the image reading position;
 - a first transporting path for guiding the document from the document separating/feeding unit to the image reading position;
 - a second transporting path for guiding the document from the said image reading position to the document inverting unit;
 - a third transporting path for guiding the document from the said document inverting unit to the first intersecting point of the first transporting path and from this first intersecting point to the said image reading position;
 - a fourth transporting path for guiding the document from the second intersecting point in the midst of the said third transporting path to the said document discharging unit;
- and

a switching member employed in the said intersecting point which switches the document feeding path from the said document inverting unit to the third transporting path or the fourth transporting path from this intersecting point.

2. The duplex automatic document feeder according to claim 1 employs the said intersecting point between the document edge position which becomes the upper end when the feeding direction is reversed toward the scanning unit again after the reading of the first side is completed, and the document edge position which becomes the upper end when the feeding direction is reversed toward the discharging unit after the reading of the second side of the document is completed.

3. The duplex automatic document feeder according to claim 2 wherein the flexible switching member is impelled at the said intersecting point for feeding the document to the fourth transporting path.

4. The duplex automatic document feeder according to claim 1 wherein the said document inverting unit and the said document discharging unit are comprised of three rollers neighboring one another.

5. The duplex automatic document feeder according to claim 2 further including a resist member to correct the skew of the document, in the downstream position of the said intersecting point.